

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A method for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites ~~domains~~, comprising:
receiving, at an access server coupled to a first communication network and a second communication network, a communication from a subscriber on said first communication network, said communication optionally including a domain site identifier associated with a domain site on said second communication network; and authorizing subscriber access to said domain site on said second communication network upon determining, in response to said receiving, that said domain site identifier is included in a list of authorized ~~domains~~ domain sites associated with ~~for~~ a virtual circuit through which ~~used to receive~~ said communication is received, ~~said authorizing responsive to said receiving~~.
2. (Currently Amended) The method of claim 1, further comprising terminating said communication when said domain site identifier is not included in said list.
3. (Original) The method of claim 1 wherein said communication comprises a Point-to-Point Protocol (PPP) session.

4. (Currently Amended) The method of claim 3 wherein
said PPP session comprises a tunneling session;
said determining ~~further~~ comprises assigning a tunnel ID; and
said PPP session is forwarded onto a tunnel associated with said tunnel ID when said
subscriber is authorized to access said domain site.
5. (Original) The method of claim 4 wherein said tunneling session comprises an L2TP
session.
6. (Currently Amended) The method of claim 5 wherein said domain site identifier included in
said communication is a domain name, and wherein said determining further comprises:
issuing an authorized domain list request including a virtual circuit identifier;
receiving an authorized domain list that includes domain names of authorized domain
sites ~~domains~~ for said virtual circuit identifier;
indicating said domain site is unauthorized when said domain name included in said
communication is not in said authorized domain list;
indicating said domain site is authorized when said domain name included in said
communication is in said authorized domain list;
issuing a tunnel ID request including said domain name when said domain site name is
authorized; and
receiving a tunnel ID.

7. (Original) The method of claim 6 wherein
said authorized domain list request is serviced by an AAA server; and
an AAA server services said tunnel ID request.
8. (Original) The method of claim 6 wherein said virtual circuit identifier comprises a
VPI/VCI identifier.
9. (Currently Amended) The method of claim 5 wherein said determining further comprises:
issuing a tunnel ID request including said domain site identifier name and a virtual circuit
identifier; and
receiving a tunnel ID.
10. (Original) The method of claim 9 wherein an AAA server services said tunnel ID request.
11. (Original) The method of claim 9 wherein said virtual circuit identifier comprises a
VPI/VCI identifier.
12. (Currently Amended) The method of claim 5 wherein said domain site identifier included in
said communication is a domain name, and wherein said determining further comprises:
performing a table lookup based on a virtual circuit identifier to obtain an authorized
domain list that includes domain names of authorized domain sites ~~domains~~ for
said virtual circuit identifier;

indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;

indicating said domain site is authorized when said domain name included in said communication is in said authorized domain list; and

performing a table lookup based on said domain name to obtain a tunnel ID when said domain site name is authorized.

13. (Original) The method of claim 12 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

14. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method to control subscriber access in a network capable of establishing connections with a plurality of domain sites ~~domains~~, the method comprising:

receiving, at an access server coupled to a first communication network and a second communication network, a communication from a subscriber on said first

communication network, said communication optionally including a domain site

identifier associated with a domain site on said second communication network; and

authorizing subscriber access to said domain site on said second communication network

upon determining, in response to said receiving, that said domain site identifier is

included in a list of authorized ~~domains~~ domain sites associated with ~~for~~ a virtual circuit

through which ~~used to receive~~ said communication is received, ~~said authorizing~~

~~responsive to said receiving.~~

15. (Currently Amended) The program storage device of claim 14, further comprising terminating said communication when said domain site identifier is not included in said list.
16. (Original) The program storage device of claim 14 wherein said communication comprises a Point-to-Point Protocol (PPP) session.
17. (Currently Amended) The program storage device of claim 16 wherein
said PPP session comprises a tunneling session;
said determining ~~further~~ comprises assigning a tunnel ID; and
said PPP session is forwarded onto a tunnel associated with said tunnel ID when said
subscriber is authorized to access said domain site.
18. (Original) The program storage device of claim 17 wherein said tunneling session comprises an L2TP session.
19. (Currently Amended) The program storage device of claim 18 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:

issuing an authorized domain list request including a virtual circuit identifier;

receiving an authorized domain list that includes authorized domain sites ~~domains~~ for

said identifier;

indicating said domain site is unauthorized when said domain name included in said communication is not in said domain list;

indicating said domain site is authorized when said domain name included in said communication is in said domain list;

issuing a tunnel ID request including said domain name when said domain site name is authorized; and

receiving a tunnel ID.

20. (Original) The program storage device of claim 19 wherein
said authorized domain list request is serviced by an AAA server; and
an AAA server services said tunnel ID request.
21. (Original) The program storage device of claim 19 wherein said virtual circuit identifier
comprises a VPI/VCI identifier.
22. (Currently Amended) The program storage device of claim 18 wherein said determining
further comprises:
issuing a tunnel ID request including said domain site identifier name and a virtual circuit
identifier; and
receiving a tunnel ID.
23. (Original) The program storage device of claim 22 wherein an AAA server services said
tunnel ID request.

24. (Original) The program storage device of claim 22 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

25. (Currently Amended) The program storage device of claim 18 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:

performing a table lookup based on a virtual circuit identifier to obtain an

authorized domain list that includes domain names of authorized domain sites
~~domains~~ for said virtual circuit identifier;

indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;

indicating said domain site is authorized when said domain name included in said communication is in said authorized domain list; and

performing a table lookup based on said domain name to obtain a tunnel ID when said domain site name is authorized.

26. (Original) The program storage device of claim 25 wherein said virtual circuit identifier comprises a VPI/VCI identifier.

27. (Currently Amended) An apparatus for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites ~~domains~~, the apparatus comprising:

means for receiving, at an access server coupled to a first communication network and a second communication network, a communication from a subscriber on said first communication network, said communication optionally including a domain site identifier associated with a domain site on said second communication network; and means for authorizing subscriber access to said domain site on said second communication network upon determining, in response to said receiving, that said domain site identifier is included in a list of authorized domains domain sites associated with ~~for~~ a virtual circuit through which ~~used to receive~~ said communication is received, ~~said authorizing responsive to said receiving.~~

28. (Currently Amended) The apparatus of claim 27, further comprising means for terminating said communication when said domain site identifier is not included in said list.
29. (Original) The apparatus of claim 27 wherein said communication comprises a Point-to-Point Protocol (PPP) session.
30. (Currently Amended) The apparatus of claim 29 wherein
said PPP session comprises a tunneling session;
said determining ~~further~~ comprises means for assigning a tunnel ID; and
said PPP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

31. (Original) The apparatus of claim 30 wherein said tunneling session comprises an L2TP session.

32. (Currently Amended) The apparatus of claim 31 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:

means for issuing an authorized domain list request including a virtual circuit identifier;

means for receiving an authorized domain list that includes domain names of authorized domain sites ~~domains~~ for said identifier;

means for indicating said domain site is unauthorized when said domain name included in said communication is not in said domain list;

means for indicating said domain site is authorized when said domain name included in said communication is in said domain list;

means for issuing a tunnel ID request including said domain name when said domain site ~~name~~ is authorized; and

means for receiving a tunnel ID.

33. (Original) The apparatus of claim 32 wherein
said authorized domain list request is serviced by an AAA server; and
an AAA server services said tunnel ID request.

34. (Original) The apparatus of claim 32 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
35. (Currently Amended) The apparatus of claim 31 wherein said determining further comprises:
means for issuing a tunnel ID request including said domain site identifier ~~name~~ and a virtual circuit identifier; and
means for receiving a tunnel ID.
36. (Original) The apparatus of claim 35 wherein an AAA server services said tunnel ID request.
37. (Original) The apparatus of claim 35 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
38. (Currently Amended) The apparatus of claim 31 wherein said domain site identifier included in said communication is a domain name, and wherein said determining further comprises:
means for performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain names of authorized domain sites ~~domains~~ for said virtual circuit identifier;
means for indicating said domain site is unauthorized when said domain name included in said communication is not in said authorized domain list;

means for indicating said domain site is authorized when said domain name included in
said communication is in said authorized domain list; and
means for performing a table lookup based on said domain name to obtain a tunnel ID
when said domain site name is authorized.

39. (Original) The apparatus of claim 38 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
40. (Currently Amended) An access server capable of allowing ~~foreign~~ subscribers of a communications system to gain exclusive access ~~exclusively~~ to a domain site network associated with a virtual circuit, said access server comprising:
an authorized domain list request generator capable of generating an authorized domain list request including a virtual circuit identifier associated with a virtual circuit through
which ~~used to accept~~ a PPP session authentication request is accepted, said PPP session authentication request including a domain site identifier;
an assessor capable of determining whether said domain site identifier is in an authorized
~~said~~ domain list associated with said virtual circuit;
a tunnel TD request generator capable of generating a tunnel ID request including said domain site identifier; and
an authorizer capable of granting users access to said domain site ~~access~~ based upon said authorized domain list.

41. (Original) The access server of claim 40, further comprising:
- a first receiving interface capable of accepting said PPP session authentication request;
 - a first forwarding interface capable of sending said authorized domain list request to an AAA server;
 - a second receiving interface capable of accepting a requested authorized domain list;
 - a second forwarding interface capable of sending said tunnel ID request to an AAA server;
 - a third receiving interface capable of accepting a requested tunnel ID; and
 - a third forwarding interface capable of forwarding said PPP session on a tunneling session associated with said tunnel ID.
42. (Original) The access server of claim 40 wherein said tunneling session comprises an L2TP session.
43. (Original) The access server of claim 42 wherein said virtual circuit identifier comprises a Virtual Path Identifier (VPI) / Virtual Channel Identifier (VCI).
44. (Original) The access server of claim 43 wherein said first receiving interface comprises at least one access multiplexer, each access multiplexer having a plurality of inputs for receiving a service request, each of said inputs being associated with a particular subscriber virtual circuit.
45. (Original) The access server of claim 41 wherein said AAA server and said access server communicate using the Remote Authorization Dial-In User Service (RADIUS) protocol.

46. (Currently Amended) An access server capable of allowing ~~foreing~~ subscribers of a communications system to gain exclusive access ~~exclusively~~ to a domain site ~~network~~ associated with a virtual circuit, said access server comprising:
- a tunnel ID request generator capable of generating a tunnel ID request, said tunnel ID request including a virtual circuit identifier associated with a virtual circuit through which ~~used to accept~~ a PPP authentication request is accepted; and
- an authorizer capable of granting users domain site access based upon a list of authorized ~~domains~~ domain sites associated with ~~for~~ said virtual circuit.
47. (Currently Amended) The access server of claim 46, further comprising:
- a first receiving interface capable of accepting said PPP session authentication request, said PPP session authentication request including a domain site identifier;
- a first forwarding interface capable of sending said tunnel ID request to an AAA server;
- a second receiving interface capable of accepting a requested tunnel ID; and
- a second forwarding interface capable of forwarding said PPP session on a tunneling session associated with said tunnel ID.
48. (Original) The access server of claim 47 wherein said tunneling session comprises an L2TP session.
49. (Original) The access server of claim 48 wherein said virtual circuit identifier comprises a Virtual Path Identifier (VPI) / Virtual Channel Identifier (VCI).

50. (Original) The access server of claim 46 wherein said first receiving interface comprises at least one access multiplexer, each access multiplexer having a plurality of inputs for receiving a service request, each of said inputs being associated with a particular subscriber virtual circuit.
51. (Original) The access server of claim 47 wherein said AAA server and said access server communicate using the Remote Authorization Dial-In User Service (RADIUS) protocol.
52. (Currently Amended) An access server capable of allowing ~~foreign~~ subscribers of a communications system to gain exclusive access ~~exclusively~~ to a domain site ~~network~~ associated with a virtual circuit, said access server comprising:
- a memory device capable of storing a domain list table and a tunnel ID table, said domain list table including a plurality of virtual circuit identifiers and associated domain site identifiers, said tunnel ID table including a plurality of domain names and associated tunnel IDs;
- an authorized domain list determiner capable of determining an authorized domain list based upon said domain list table and a domain site identifier within a PPP authentication request, said PPP authentication request received on a virtual circuit having a virtual circuit identifier;
- an assessor capable of determining whether said domain site identifier within said PPP authentication request is in said domain list;

a tunnel ID determiner capable of determining a tunnel ID based upon said tunnel ID table

and said domain site identifier; and

an authorizer capable of granting subscribers domain site access based upon said authorized

domain list.

53. (Previously Presented) The access server of claim 52, further comprising:

a receiving interface capable of accepting said PPP session authentication request; and

a forwarding interface capable of forwarding said PPP session on a tunneling session

associated with said tunnel ID.

54. (Original) The access server of claim 53 wherein said tunneling session comprises an L2TP session.

55. (Original) The access server of claim 54 wherein said virtual circuit identifier comprises a Virtual Path Identifier (VPI) / Virtual Channel Identifier (VCI).

56. (Original) The access server of claim 52 wherein said first receiving interface comprises at least one access multiplexer, each access multiplexer having a plurality of inputs for receiving a service request, each of said inputs being associated with a particular subscriber virtual circuit.

57. (Currently Amended) A method for controlling subscriber access in a network capable of establishing connections with a plurality of domain sites ~~domains~~, comprising:

receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;

determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites ~~domains~~ for a virtual circuit through which ~~used to receive~~ said L2TP session is received, said determining comprising:

issuing an authorized domain list request including a virtual circuit identifier;

receiving an authorized domain list that includes domain site identifiers of authorized domain sites ~~domains~~ for said virtual circuit identifier;

indicating said domain site is unauthorized when said domain ~~name~~ site identifier included in said L2TP session is not in said authorized domain list;

indicating said domain site is authorized when said domain site identifier ~~name~~ is in said authorized domain list;

issuing a tunnel ID request including said domain site identifier ~~name~~ when said domain site ~~name~~ is authorized;

receiving a tunnel ID; and

assigning said tunnel ID; and

authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

58. (Previously Presented) The method of claim 57 wherein
said authorized domain list request is serviced by an AAA server; and
an AAA server services said tunnel ID request.
59. (Previously Presented) The method of claim 57 wherein said virtual circuit identifier
comprises a VPI/VCI identifier.
60. (Currently Amended) A method for controlling subscriber access in a network capable of
establishing connections with a plurality of domain sites ~~domains~~, comprising:
receiving an L2TP session from a subscriber using a first communication network coupled to
at least one other communication network, said L2TP session optionally including a
domain site identifier associated with a domain site on said at least one other
communication network;
determining whether said subscriber is authorized to access said domain site based upon said
domain site identifier and a list of authorized domain sites ~~domains~~ for a virtual circuit
through which ~~used to receive~~ said L2TP session is received, said determining
comprising:
performing a table lookup based on a virtual circuit identifier to obtain an authorized
domain list that includes domain site identifiers of authorized domain sites for
~~domains for~~ said virtual circuit identifier;
indicating said domain site is unauthorized when said domain site identifier included in
said L2TP session name ~~name~~ is not in said authorized domain list;

indicating said domain site is authorized when said domain site identifier included in
said L2TP session ~~name~~ is in said authorized domain list;
performing a table lookup based on said domain site identifier ~~name~~ to obtain a tunnel
ID when said domain site ~~name~~ is authorized; and
assigning said tunnel ID; and
authorizing subscriber access to said domain site when said domain site identifier is included
in said authorized domain list, wherein said L2TP session is forwarded onto a
tunnel associated with said tunnel ID when said subscriber is authorized to access said
domain site.

61. (Previously Presented) The method of claim 60 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
62. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method to control subscriber access in a network capable of establishing connections with a plurality of domain sites ~~domains~~, the method comprising:
receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;
determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites ~~domains~~ for a virtual circuit

through which ~~used to receive~~ said L2TP session is received, said determining comprising:

issuing an authorized domain list request including a virtual circuit identifier;

receiving an authorized domain list that includes authorized domain site ~~domains~~ for said virtual circuit identifier;

indicating said domain site is unauthorized when said domain site identifier included in said L2TP session ~~name~~ is not in said authorized domain list;

indicating said domain site is authorized when said domain site identifier included in said L2TP session ~~name~~ is in said authorized domain list;

issuing a tunnel ID request including said domain site identifier ~~name~~ when said domain site ~~name~~ is authorized;

receiving a tunnel ID; and

assigning said tunnel ID; and

authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

63. (Previously Presented) The program storage device of claim 62 wherein said authorized domain list request is serviced by an AAA server; and an AAA server services said tunnel ID request.

64. (Previously Presented) The program storage device of claim 62 wherein said virtual circuit identifier comprises a VPI/VCI identifier.
65. (Currently Amended) A program storage device readable by a machine, embodying a program of instructions executable by the machine to perform a method to control subscriber access in a network capable of establishing connections with a plurality of domain sites ~~domains~~, the method comprising:
- receiving an L2TP session from a subscriber using a first communication network coupled to at least one other communication network, said L2TP session optionally including a domain site identifier associated with a domain site on said at least one other communication network;
- determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites ~~domains~~ for a virtual circuit through which ~~used to receive~~ said L2TP session is received, said determining comprising:
- performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain site identifiers of authorized domain sites for ~~domains for~~ said virtual circuit identifier;
- indicating said domain site is unauthorized when said domain site identifier included in said L2TP session ~~name~~ is not in said authorized domain list;
- indicating said domain site is authorized when said domain site identifier included in said L2TP session ~~name~~ is in said authorized domain list;
- performing a table lookup based on said domain site identifier ~~name~~ to obtain a tunnel ID when said domain site ~~name~~ is authorized; and

assigning said tunnel ID; and
authorizing subscriber access to said domain site when said domain site identifier is included
in said authorized domain list, wherein said L2TP session is forwarded onto a
tunnel associated with said tunnel ID when said subscriber is authorized to access said
domain site.

66. (Previously Presented) The program storage device of claim 65 wherein said virtual circuit
identifier comprises a VPI/VCI identifier.

67. (Currently Amended) An apparatus for controlling subscriber access in a network capable of
establishing connections with a plurality of domain sites ~~domains~~, said apparatus
comprising:

means for receiving an L2TP session from a subscriber using a first communication network
coupled to at least one other communication network, said L2TP session optionally
including a domain site identifier associated with a domain site on said at least one other
communication network;

means for determining whether said subscriber is authorized to access said domain site based
upon said domain site identifier and a list of authorized domain sites ~~domains~~ for a
virtual circuit used to receive said L2TP session, said means for determining
comprising:

means for issuing an authorized domain list request including a virtual circuit identifier;

means for receiving an authorized domain list that includes domain site identifiers of
authorized domain sites ~~domains~~ for said virtual circuit identifier;

means for indicating said domain site is unauthorized when said domain site identifier
included in said L2TP session name is not in said authorized domain list;

means for indicating said domain site is authorized when said domain site identifier
included in said L2TP session name is in said domain list;

means for issuing a tunnel ID request including said domain site identifier name when
said domain site name is authorized;

means for receiving a tunnel ID; and

means for assigning said tunnel ID; and

means for authorizing subscriber access to said domain site when said domain site identifier
is included in said authorized domain list, wherein said L2TP session is forwarded onto
a tunnel associated with said tunnel ID when said subscriber is authorized to access said
domain site.

68. (Previously Presented) The apparatus of claim 67 wherein

said authorized domain list request is serviced by an AAA server; and
an AAA server services said tunnel ID request.

69. (Previously Presented) The apparatus of claim 67 wherein said virtual circuit identifier
comprises a VPI/VCI identifier.

70. (Currently Amended) An apparatus for controlling subscriber access in a network capable of
establishing connections with a plurality of domain sites ~~domains~~, comprising:

means for receiving an L2TP session from a subscriber using a first communication network
coupled to at least one other communication network, said L2TP session optionally

including a domain site identifier associated with a domain site on said at least one other communication network;

means for determining whether said subscriber is authorized to access said domain site based upon said domain site identifier and a list of authorized domain sites ~~domains~~ for a virtual circuit through which ~~used to receive~~ said L2TP session is received, said means for determining comprising:

means for performing a table lookup based on a virtual circuit identifier to obtain an authorized domain list that includes domain site identifiers of authorized domain sites for ~~domains for~~ said virtual circuit identifier;

means for indicating said domain site is unauthorized when said domain site identifier included in said L2TP session ~~name~~ is not in said authorized domain list;

means for indicating said domain site is authorized when said domain site identifier included in said L2TP session ~~name~~ is in said authorized domain list;

means for performing a table lookup based on said domain site identifier ~~name~~ to obtain a tunnel ID when said domain site ~~name~~ is authorized; and
assigning said tunnel ID; and

means for authorizing subscriber access to said domain site when said domain site identifier is included in said authorized domain list, wherein said L2TP session is forwarded onto a tunnel associated with said tunnel ID when said subscriber is authorized to access said domain site.

71. (Previously Presented) The apparatus of claim 70 wherein said virtual circuit identifier comprises a VPI/VCI identifier.